

TYPE I PROGRESS REPORT (For the Period 9 August 1973 - 8 October 1973)

TITLE: Effects of Construction and Staged Filling of Reservoirs
on the Environment and Ecology MMC #341

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OBJECTIVE: To study the environment and ecological impact of the
construction and operation of Oakley Dam and Friends Creek
Impoundment located on the Sangamon River in East Central
Illinois.

1. The digital planimetric base maps covering the portion of the
Sangamon River between Rantoul and Decatur, Illinois have been completed.
Stereomodels of underflight photography are currently being used to complete
the digital planimetric base maps for the river corridor between Decatur
and Springfield, Illinois.

2. The computer program for data analysis of surface configuration
has been completed and tested. The Corps of Engineers, Chicago District
Office, contracted Sidwell Map Company of Chicago to photograph the dam
sites and reservoir areas at a scale of 1"=1,000'. The flight was conducted
on 7 June 1973, photographs from this flight will be used in this portion
of the project.

3. Successful processing of underflight photographs has been completed.
Tests have commenced for processing ERTS imagery. A macro lens is on
order, as soon as it is received the final processing of ERTS imagery will
start.

4. The components for a complete 35 mm and 2-1/4 inch macro copying
system have been acquired. The system has been assembled, tested, and is
now fully operational. An interpretation system has been designed and the
various components have been acquired and tested. The system is presently
being constructed. When the system is completed ground truth data will be
correlated to interpretation data. This interpretation system is believed
to be unique and could be duplicated by other investigators for other loca-
tions. Full details of this system and examples of it's output will be
included in the next report.

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5. Underflight photographs of the study area were received for the flight date, 13 August 1973; they are excellent.

6. All ERTS data request forms and underflight requests have received prompt attention by NASA personnel.

7. Digital planimetric maps of the remaining stereo models of the underflight photography are expected to be completed in the next two months. Using two-dimensional transformations, the independently generated digital planimetric units will be connected to form a continuous strip covering the entire stream corridor from Springfield to Decatur, Illinois.

8. In the next two months the detailed interpretation of photographs from two underflights is expected to be completed. The final processing of ERTS imagery is expected to be completed and the detailed interpretation of this imagery should be started.